CALFED Bay-Delta Program Project Information Form

Watershed Program - Full Proposal Cover Sheet

1. Full Proposal Title: Walnut Creek Watershed
Concept Proposal Title/Number: WSP01-0052
Applicant: Contra Costa County Flood Control & Water Conservation District
Applicant Name: Kevin Emigh, Contra Costa County Flood Control District
Applicant Mailing Address: 255 Glacier Drive, Martinez, CA 94553-4825
Applicant Telephone: (925) 313-2233 Applicant Fax: (925) 313-2333
Applicant E-mail: kemigh@pw.co.contra-costa.ca.us
Fiscal Agent Name (if different from above): Same as above – Attn. Accounting Division
Fiscal Agent Mailing Address:_____
Fiscal Agent Telephone:_____ Fiscal Agent Fax:_____ Fiscal Agent Email:___ ____

2. Type of Project: Indicate the primary topic for which you are applying (check only one)

_____Assessment	_____Monitoring
_____Capacity Building	_____Outreach
_____Education	___X_Planning
_____Implementation	_____Research

3. Type of Applicant:

_____Academic Institution/University	_____Non-Profit
_____Federal Agency	_____Private party
_____Joint Venture	_____State Agency
__X__Local Government	_____Tribe or Tribal Government

4. Location (including County):
What major watershed is the project primarily located in:
_____Klamath River (Coast and Cascade Ranges)
_____Sacramento River (Coast, Cascade and Sierra Ranges)
_____San Joaquin River (Coast and Sierra Ranges)
___X Bay-Delta (Coast and Sierra Ranges)
_____Southern CA (Coast and Sierra Ranges)
_____Tulare Basin (Coast, Sierra and Tehachapi Ranges)

5. Amount of funding requested: $ 260,000.00
Cost share/in-kind partners? ___X Yes _____No
Identify partners and amount contributed by each: Contra Costa County - $50,000.00

6. Have you received funding from CALFED before? _____Yes _X___No
If yes, identify project title and source of funds:

By signing below, the applicant declares the following:

1. The truthfulness of all representations in their proposal
2. The individual signing this form is entitled to submit the application on behalf of the applicant (if the applicant is an entity or an organization)
3. The person submitting the application has read and understood the conflict of interest and confidentiality discussion in the Watershed Program Proposal Solicitation Package and waives any and all rights to privacy and confidentiality of the proposal on behalf of the applicant, to the extent provided in the Proposal Solicitation Package.

_____
Printed name of applicant

_____
Signature of applicant

1. Describe your project, its underlying assumptions, expected outcomes, timetable for completion, and general methodology or process.

The Walnut Creek Watershed (180 square miles) drains a rapidly urbanizing East Bay area. The Walnut Creek Channel is located in Central Contra Costa County, reaching from Waterfront Road near Suisun Bay south (upstream) to Ygnacio Valley Road in the City of Walnut Creek. The major tributaries are Pacheco, Grayson, Tice, San Ramon, Pine/Galindo and Ellinwood Creeks and the Clayton Valley Drain (Figure 1).

Major cities in the watershed include San Ramon, Lafayette, Danville, Walnut Creek, Pleasant Hill and Concord. Sources of water pollution come from agricultural, commercial and industrial, residential, and transportation activities in the watershed. Water quality problems in Walnut Creek and its tributaries include excessive erosion and sedimentation associated with storm water runoff from construction sites, pesticide and fertilizer runoff from agricultural and residential areas, storm drain contamination due to improper oil, grease, etc. disposal, illegal dumping of toxic fluids and materials directly or indirectly into the creeks and accidental spills of contaminants. These water quality problems result in accidental fish kills, reduced aquatic habitat values for invertebrates, fish and wildlife associated with siltation, contamination and oxygen depletion, and potential public health hazards.

The original Walnut Creek Channel was once rich in biotic resources but was also severely inadequate to contain frequently occurring flood flows. The creek prior to World War II was a comparatively natural stream meandering through grass/pasture land. Tree groves occurred intermittently; a thick shrub understory and ruderal vegetation existed along much of the creek's banks. Large populations of both resident and anadramous fish could be found in its waters, and a wide variety of wildlife, dependent on the creek for food and habitat, was in evidence.
Channel modifications provided by the Corps of Engineers in the 1960's brought 100-year flood protection to the communities along the Walnut Creek channel but provided very limited recreational, aesthetic, and biotic attributes. This action took care of the 100-year flood problem but destroyed a valuable ecosystem.

In January 1990, representatives from each city along San Ramon and Walnut Creek, Contra Costa County, and other affected agencies met to discuss the feasibility of creating a greenway and trail system from Suisun Bay to Bollinger Canyon in the City of San Ramon. The overall project was divided into three sections, the northern section being designated as the Walnut Creek Channel Recreation and Revegetation Project (WCCRRP). The WCCRRP was not intended to be an end in itself. Rather, it is a recipe for future site-specific projects. Reach 1 is the target area for this phase of planning and it encompasses Pacheco Slough (Walnut Creek) from Suisun Bay to Drop Structure No. 1 located at the crossing of Hwy. 680 and Hwy. 242 (5 miles) - see Figures 11 and 12.

The WCCRRP is the basis for this next planning phase so we now move on toward final plans for eventual implementation with the following specific objectives and goals:

- Study the probable effect of biotic enhancement alternatives on channel hydrology and determine the need, extent, and frequency of dredging to remove build-up. Study the possible effects of dredging on fish and wildlife in Reaches 1-A and 1-B.
- Develop a replacement program for non-native plant species.
- Study the implementation of a planting program, possibly involving community groups, for areas (such as tops of banks) where new planting will not interfere with existing hydrology or maintenance.
- Re-evaluate existing maintenance practices.
- Pursue the restoration of Ellinwood Creek.
- Develop a mutually agreeable plan for improvements in the Buchanan Field zone of influence.
- Identify potential funding sources.
- Ensure continuation of the Technical Committee to oversee and guide future studies and plans.
- Develop a cooperative agreement among agencies to assign responsibility for funding, development, and maintenance. Establish means of implementing Project proposals (design and construction), including phasing.
- Identify details of effect of Caltrans proposed I-680 modifications on channel improvements.

- Pursue Army Corps of Engineers' commitment to revegetate portions of the channel.
- Identify means of reducing pollutants.
- Complete environmental documents
- To ensure that whatever could be done to save and enhance the corridor should be done with the consensus of affected jurisdictions, special interest groups, and the general public.
- To develop creative, feasible, and logistically manageable concepts that will stimulate the political machinery into making those concepts a reality.
- Coordinate Project concepts with existing data, programs, and plans of affected jurisdictions and to implement Project proposals with the planned facilities of those jurisdictions.
- Present an integrated approach so that trails/recreation and biotic enhancement could be implemented in concert with each element supporting the other.
- Present a program for the restoration and enhancement of natural values found in the corridor's vegetation, wildlife, and fishery.
- Protect, where possible, ecologically sensitive areas.
- To create a continuous multi-use trails system along/within the corridor.
- Link existing and proposed local and regional trails to a continuous channel trail, and in turn link with parks, schools, and public transportation, and identify sites for staging areas.
- Create a positive recreational and aesthetic experience for both area residents and visitors.
- Provide safe access to the trail system, where possible, for persons with disabilities.
- Increase the public's awareness of the channel and its biota by providing access and amenities for interpretive education.
- Identify specific areas of the channel where recreational enhancements, such as water elements, may be appropriate.
- Preserve the channel's capacity for handling high water flows.
- Identify the means by which recreation and biotic improvements may be funded and maintained.
- Additional objectives such as water quality, ecosystem enhancement and habitat restoration have evolved through the formative process of the watershed evaluation.
- Study effects of dredging on biotic resources in Reaches 1-A and 1-B and whether there are alternatives to dredging in these reaches.
- Develop a sediment removal process between Grayson Creek and Crop Structure No.1, which would allow shifting of low-flow channel to the West Side.
- Explore methods of providing fish passage at and beyond Drop Structure No. 1.
- Continue to pursue re-evaluation of maintenance to identify and effectuate more ecologically sensitive, cost-effective methods.
- Pursue the restoration of Ellinwood Creek in Pleasant Hill, including establishment of minimum flow requirements.
- Negotiate and conclude a cooperative agreement (possibly a joint powers agency) among jurisdictional agencies for funding, development, and maintenance responsibilities of Project proposals. Develop a mechanism for steering and review by the Technical Committee.

A major premise of this Project has been to develop and evaluate, in conjunction with a regional trail plan, concepts for the improvement of the channel's biotic resources. The Project represents a commitment by the communities and agencies with jurisdiction over the corridor to re-establish as much as is feasible of the riparian setting and to create a trail system linking together the cities which straddle the corridor.

The Technical Committee has worked with the Consultant Team to develop a wide range of alternatives depicting how future channel improvements could enhance vegetation, fish, and wildlife resources. The Committee prefers planning concepts that will allow the fullest improvement of natural aquatic, wetland, riparian, and associated upland habitat values as is feasible.

We will also address concerns regarding protection of fish and wildlife species of concern; the location, timing, and extent of sediment removal from the channel; timing of laddering fish migration barriers; resolution of toxic contamination and non-point source pollution concerns; and avoidance of potential hazards to airport operations.

The **expected outcome** is to develop plans within Reach 1which address:
1) Sedimentation/Channel Dredging
2) Revegetation Impacts to Hydraulics/Flooding
3) Fish Migration Barriers/Access
4) Potential for Toxic Pollutant Contamination
5) Non-point Source Pollution
6) Potential Hazards to Airport Operations
7) Ellinwood Creek Restoration and Enhancement
8) Continuance of Data/Information Sharing with Stakeholders/Public

The anticipated outcome is the immediate and long-term reduction in point and non-point sediment production into Suisun Bay. Other outcomes that are expected are reduced erosion and soil loss, improved water quality, enhanced ecosystems along the corridor and restoration of vegetative cover and continued education of public and private entities about watershed restoration.

We will use current best management practices to achieve the desired results. The selective planning measures will be determined by collaborative efforts and input from the Technical Committee, Policy Steering Committee and professional consultants dealing with riparian restoration, hydrology, public access, education and flora/fauna management.

Additionally, this project proposal provides for grant/project administration, environmental permits and compliance, eventual monitoring, and public education and outreach.

The timetable for completion of this is approximately 18 to 24 months (excluding environmental documents). The methodology will be to formulate plans through the continued use of theTechnical Committee, Policy Steering Committee and professional consultants and stakeholders to:

- Encourage the Cities, County, and other agencies to identify pollutant and sediment sources and reduce their introduction to the channel.
- Initiate actions of the District for development of channel hydrology studies with a focus on a) extent of allowable vegetation, b) feasibility of fish ladders, c) need for dredging and feasible alternatives to dredging, and d) options for top-of-bank modifications to improve hydraulic capacity.
- Analyze and develop a workable and agreeable plan for improvements in the Buchanan Field area.
- Identify the details of Caltrans' proposed modifications to the ramp at Interstate 680-Willow Pass Road and its impact on channel improvements.
- Develop a replacement program for non-native channel plant species.
- Study the implementation of a planting program, possibly involving community groups, for areas (such as tops of banks) where new planting will not interfere with channel hydrology or maintenance.
- Initiate studies of a) salt marsh harvest mouse population and b) rare plants within the channel.

2. Describe your qualifications and readiness to implement the proposed project.
    a. Describe the level of institutional structure, ability and experience to administer funds and conduct the project. Identify the fiscal agent responsible for handling the funds.

Contra Costa County is organized on a department basis. The District has the responsibility for flood control and is the lead department for administering this project. Staff of (15 full time and 5 seasonal employees) from the flood control maintenance division will oversee the long-term maintenance and administration of the grant project. The Senior Civil Engineer has 13+ years of experience and the county has a vegetation management crew of 5 who are trained in all aspects of horticulture (tree and shrub care, use of pesticides, etc.).
The District is a separate financial entity but they are housed within the Public Works Facility and are responsible for fiscal control. This District has administered accounting practices for a variety of grants extensively over the past several years.

b. Describe technical support available (including support needed for environmental compliance and permitting) to begin and complete the project in a timely manner.

The Technical Committee was made up of representatives from each sponsoring agency: East Bay Regional Park District, Contra Costa County Flood Control and Water Conservation District, Central Contra Costa Sanitary District, Pleasant Hill Recreation and Park District, the Cities of Concord, Pleasant Hill, San Ramon, Walnut Creek, and a citizen representative. Additional Technical Committee members representing other interested agencies included Contra Costa County, California Department of Fish and Game, ACOE and the U.S. Fish and Wildlife Services.

For planning and design of the overall watershed improvements we will utilize services of a consulting environmental team that consists of firms with the following expertise:

1. *Hydrogeology* - hydrological, HEC modeling, sedimentation and erosion aspects of watershed analysis;
2. *Civil Engineering* – geotechnical studies, preliminary design of watershed improvements;
3. *Aquatic Biologist* – nutrient and bacterial analyses of surface waters within watershed streams; fisheries studies;
4. *Ornithology* – bird use observations and habitat studies;
5. *Wetlands* – wetland characterization and mapping, wetland and riparian habitat restoration and design;
6. *Rangeland Management* – impacts from existing cattle grazing; options for eliminating impacts with improved grazing management;
7. *Regulatory* – requirements under Section 404, Endangered Species Act, California Section 1603 and 2081, Regional Water Quality Control Board, and Contra Costa County.

The county processes CEQA and NEPA in house on behalf of the District. Other regulatory permits are handled by each issuing department. In this case the Contra Costa County Flood Control and Water Conservation District will be responsible for the permits.

Regulatory Approval **-** Improvements will likely require a Corps of Engineers Section 404 permit.

Additionally, the USF&WS will provide specific comments and recommendations upon the effects of a proposed Corps permit on wildlife and wetland functions and values. RWQCB Section 401 Water Quality Certification (or waiver thereof) and a CDFG approval will also be required.

c. List any previous projects of this type you or your partners have implemented, funded either by CALFED or other programs.

Contra Costa County has received a grant of $100K through EPA – Clean Water

3. Provide a completed budget cost sheet and describe the basis for determining project costs, including comparisons with other similar projects, salary comparisons, and other listed costs. Include all costs of environmental compliance, such as CEQA and/or NEPA, and permits. Describe how the approach to achieving the stated goals of the project demonstrates an effective cost relative to its anticipated benefits.

Please see attached budget sheets

4. Describe the technical feasibility of the proposed project.
   a. Describe any similarity to previously implemented successful projects in this community or elsewhere.

The proposed project involves watershed stabilization and ecological enhancement techniques similar to those successfully applied elsewhere in Contra Costa County, Solano County and throughout California.

For example, numerous watershed management plans have used or are currently using stream restoration processes to promote stream stabilization and riparian vegetation re-establishment. In combination with other stabilization and management actions, most of the proposed improvements are tools for watershed restoration. Examples of efforts include on-going management at The Nature Conservancy's (TNC) Cosumnes River Preserve and Kern River Preserve, the Upper Stoney Creek Preserve and the Deer Creek Preserve (Deer Creek Watershed Conservancy) and Vacavilles Alamo/Ulatis Creek Restoration.

Bioengineering techniques proposed under this project for stabilization of watershed streams and drainages are techniques that have been successfully used throughout California. Examples include watershed stabilization work at Big Chico Creek (UCD-ICE 1997), the Feather River CRM (Harris 2000), Cottonwood Creek, Elkhorn Slough and Carmel River (UCD-ICE 1997).

b. If the project proposes a new approach or new method with a high likelihood of adding new knowledge and or techniques, or with the potential to fill identified gaps in existing knowledge, describe how it will do so, and what monitoring components will provide substantiation of results.

We do not foresee new implementation methods but could very well be utilizing state of the art products for sediment control. If this occurs, all stakeholders will be apprised.

c. Explain how the finished project will be maintained as necessary, and to what degree it may require continued funding from outside the community.

The District and East Bay Regional Parks will maintain the project improvements with staff as mentioned in Item 2.a above. We do not anticipate additional funding upon completion of the watershed improvements. Monitoring/review will be on going and in a manner that will allow quick remedial action to any problems that occur. Costs will most likely be appropriated within the stakeholders framework if needed.

5. Describe how the monitoring component of the project will help determine the effectiveness of project implementation and assist the project proponent and CALFED with adaptive management processes.
   a. Identify performance measures appropriate for the stated goals and objectives of the project.

Performance measures shall reflect the overall project goal of restoring the Walnut Creek Corridor and related Watershed. Monitoring shall be designed to detect trends in the post-project system on both a spatial and temporal basis so that needed adjustments and refinements in the plan can be made when needed and in the specific locations needed. Key performance measures, upon implementation of plans, shall include but not be limited to the following:

1. Sediment Volumes - There should be significant decline in the volume of sediment reaching Suisun Bay.

2. Stream Cross Sections – Stabilized stream segments should remain stable or should evolve over the monitoring period in the direction of stability. There should be no evidence of new significant slope disturbance and a natural stream corridor will be the end result.

3. Sediment Accretion - Following initial stabilization there will likely be evidence of accretion in key stream locations such as revegetation and bank stabilization. Over time, the rate of accretion should decline as the stabilized system matures

4. *Wetland Vegetation Establishment* – Within the flatter and broader portions of stabilized stream zones, and within seeded areas, cover by hydrophytic herbaceous species should expand.

5. Woody Riparian Establishment – *Planted zones of woody riparian vegetation should show evidence of maturation and canopy cover expansion over the monitoring period.*

6. Erosion Seed Mix Establishment – *Seeded sideslopes and other graded areas along the stabilized streams should rapidly germinate and expand cover.*

7. *Oak Establishment* – Planted zones of oaks in the watershed should demonstrate a reasonable level of survival and maturation.

8. *Grassland Condition* – There should be a reduction in eroded areas in the watershed.

The following 8 basic goals and related monitoring performance measures are:

1) Sedimentation/Channel Dredging
2) Revegetation Impacts to Hydraulics/Flooding
3) Fish Migration Barriers/Access
4) Potential for Toxic Pollutant Contamination
5) Non-point Source Pollution
6) Potential Hazards to Airport Operations
7) Ellinwood Creek Restoration and Enhancement
8) Continuance of Data/Information Sharing with Stakeholders/Public

The monitoring performance measures will be the effectiveness of the plans in stabilization efforts to reduce and control erosion, sedimentation, excessive runoff and sediment outflows to Suisun Bay.
The measures implemented will be the actual development of plans that have proven effective in other stream/watershed restoration projects.
Because this is a planning process, the monitoring/review team will critique current data available and prepared by the Technical Committee.

In essence, the monitoring/review team will contrast plans currently being utilized for work similar to the Walnut Creek restoration project and determine their appropriate application to the work at hand.
We will measure the time lapse of vegetative restoration of road and trail closures.
We will observe and note the effectiveness of stabilization options and corridor restoration of other areas and discuss with other parties their individual program effectiveness.
Success will be measured of other plans as to their success or failure of the restoration improvements.

The special interest groups, stakeholders and schools will assist in this overview of plans for vegetative growth, site suitability, hydrologic impacts, public use and plant effectiveness within the stream corridor and watershed.

b. Describe how this project will coordinate with and support other local and regional monitoring efforts.

Monitoring/review results will be shared with monitoring conducted under the on-going Solano Water Agency Regional Habitat Conservation Plan, other on-going watershed enhancement and restoration efforts in Contra Costa, Solano and Yolo Counties (*e.g.,* Cache Creek, Lake Solano, Lower Putah Creek), the pending Rockville Hills Regional Park Management Plan, and on-going management efforts at the Jepson Prairie Preserve. Results will also be shared with the UC-Davis Information Center for the Environment for posting on their web site. The project efforts will also be shared with the Lindsay Museum and extensively with local and regional schools.

The county will avail efforts of this project with work proposed by Yolo County, City of Vacaville and the Amador County Resource Conservation District. These entities have multiple partners too and we are most willing to collaborate with their proposals to enhance everyone's needs.
In addition, the City of Vacaille has been involved with stream restoration work on Alamo, Ulatis and Laguna Creeks. Our group will glean from them information applicable to our project.

c. Provide a description of any citizen monitoring programs that will be part of this project.

The citizens and public agencies of Contra Costa County are well aware of the problems in the upper watershed of the Walnut Creek Basin and are actively working on their resolution. The City of Walnut Creek has recently completed a plan for habitat restoration and enhancement of Walnut Creek, Las Trampas Creek and San Ramon Creek within the City of Walnut Creek. (John Roberts & Associates, 1991). The communities of San Ramon, Danville, and Alamo are currently preparing a recreational trail and enhancement plan for San Ramon Creek between Bollinger Canyon Road and the city limits of Walnut Creek (Keller, Mitchell and Corona, In prep.). These plans involve public participation. Exposure of these actions will generate public input.
The Lindsay Museum (City of Walnut Creek) is currently conducting a program educating the community (residents, especially children, and businesses) about ways to prevent non-point source pollution in the Walnut Creek Watershed. We anticipate utilizing these links to inform citizens about the Walnut Creek restoration effort and gain their monitoring and overview support (please see attached support letters).

d. What monitoring protocols will be used, and are they widely accepted as standard protocols?

The eventual monitoring program will use standard protocols for wetland and watershed monitoring. These are summarized as follows:

1. *Geomorphic Cross Sections* - These cross sections will be will be carefully placed at representative transition points where erosion or sediment deposition is most likely to occur. The cross sections will serve as a control for the map-based geomorphic interpretations, and will also provide the standard "hydraulic geometry" data to evaluate future stability or instability. Geomorphic channel monitoring will be conducted in the summers of year 1, 3rd 5 following stabilization.
2. *Photographic Monitoring* - The condition of the channels at selected, standard monitoring locations will also be documented annually by photography in order to assist in evaluating how the channel changes over time. If photopoints are used, they will be carefully chosen to minimize the possibility that vegetation may later obscure the view of the channel from that location.
3. *Suspended Sediment Volumes* – Suspended sediments will be measured in streams using a single stage sampler, or an equivalent apparatus, in coordination with stream flow measurements at suitable locations in the streams. At least one set of samples will be collected during each storm season during a large storm event.
4. *Bedload Sediment Volumes* – These will be estimated in year 1, 3 and 5 by measuring the depth of accumulated sediments at the mouths of each stream outlet and at key locations within the stabilized streams (e.g., plunge basins, cutoff walls, check dams).
5. *Vegetation Cover* - Quantitative-sampling methodology will be used to monitor vegetational parameters. To assess plant cover, random plots (quadrants) will be established in selected stabilized and seeded channel zones. Photographs will be taken of a representative selection of sampling plots in order to provide visual verification of estimation data. Cover will be estimated by absolute cover class for each species. Basal area cover by woody species will be combined with herbaceous cover in woody riparian habitats. Unequal cover class intervals allow for an easier estimation of species-cover to area relationships than do equal class intervals (Mueller-Dombois and Ellenberg 1974).
6. *Riparian and Oak Planting Survival* – Percent survival will be estimated annually by counting the number of live individuals during the growing season during each monitoring year.

e. Describe how the type and manner of data collection and analysis will be useful for informing local decision making?

A better understanding of the effectiveness of sedimentation control for protecting Suisun Bay, Walnut Creek and its tributaries with associated native fish populations and flora/fauna should also be possible with proper plans and related design elements.

Finally, monitoring/review results may shed light on a number of important watershed management questions in the Contra Costa County area, including the efficacy of various bioengineering techniques within various stream and wetland settings in the watershed.

The development of plans will be compiled from numerous federal, state and local sources. This information will be presented to the Technical Committee where the group will develop a more informed decision.

6. If this project is to develop specific watershed conservation, maintenance or restoration actions describe the scientific basis for the action(s) described in the proposal. Include the following:
a. Any assessment of watershed condition(s) that has already been developed by you or others.

An assessment of the Walnut Creek Watershed (180 square miles) was completed in November of 1992. A report 'Walnut Creek Channel Recreation and Revegetation Project' (WCCRRP) was the end product. Reach 1 is the target area for this phase of planning it encompasses Pacheco Slough (Walnut Creek) from Suisun Bay to Confluence with Pacheco Creek (2 miles) - see Figures 11 and 12.

The WCCRRP report identified the following wildlife and vegetative zones and their conditions:

WILDLIFE RESOURCES - The wetland and riparian wildlife habitat values of Walnut Creek from Suisun Bay to Ygnacio Valley Road have been severely impacted by vegetation removal, channel modification, on-going flood control, channel maintenance, and extensive urban development along both banks. Throughout most of the area, wildlife use on the levee slopes and top-of-bank is characterized by species that are typically associated with grassland/ruderal habitats, due to the lack of riparian forest habitat. The aquatic and in-channel habitats vary from salt marsh and brackish marsh in Reaches 1 and 2 to freshwater marsh throughout the remaining reaches.
Despite the highly altered condition of lower Walnut Creek, the habitat resources present support a variety of wildlife, including several wildlife species of concern.

VEGETATION RESOURCES - Four major plant communities were observed along Lower Walnut Creek: valley oak riparian, ruderal/grassland, upland landscaping, and wetlands (fresh, brackish and salt marsh).

VALLEY OAK RIPARIAN VEGETATION - The valley oak riparian habitat inhabits the top-of-bank and outer floodplain areas along the river. The community, established through plantings after construction of the flood control project, is dominated by young saplings of native trees interspersed with groves of non-native upland landscaping. The revegetated valley oak riparian habitat occurring in the study area possesses limited wildlife value for riparian-associated species. The lack of cover precludes nesting by most birds.

RUDERAL/GRASSLAND - The interspersion of ruderal and grassland, together with the close proximity of urban landscapes, creates a habitat that supports species characteristic of undeveloped grasslands, as well as species typical of weedy urban lots. The levee slopes within the project area are dominated by ruderal vegetation. Ruderal vegetation is characterized by the presence of non-native annual and perennial plant species that have become established on previously disturbed areas and/or artificial substrates (e.g., rip-rap).

UPLAND LANDSCAPING - The top of bank and floodplain areas (adjacent to the maintenance roads) are dominated by plantings of various ornamental landscape trees and shrubs. There are several species of eucalyptus *(Eucalyptus* spp.) and pine *(Pinus* spp.) that have been planted along the roads and have formed large groves, often intermixing with adjacent backyard plantings. The various non-native trees and shrubs provide nesting, foraging and cover for many species of birds. Due to the lack of riparian forest habitat in the study area, the mature non-native trees, some of which occur as extensive groves, represent an important habitat resource.
WETLAND HABITATS - Reaches 1 and 2: In Reach 1, between the confluence of Pacheco Creek and the Carquinez Straits, the Walnut Creek channel (also referred to as Pacheco Slough) is dominated by salt tolerant hydrophilic vegetation such as pickleweed.

Salt Marsh: The salt marsh possesses high habitat value for a limited but distinctive fauna. Although this habitat is restricted to Reach 1 and the lower portion of Reach 2, its continuity with salt marshes to the east and west along the shoreline of Suisun Bay contributes greatly to its species abundance and diversity.
Freshwater Marsh: Unlike the salt and brackish marsh, amphibians are expected to be common in the freshwater marsh, especially where wetland vegetation provides extensive cover.

FISH - Walnut Creek was channelized from Suisun Bay to Bancroft Avenue for flood control purposes in 1967. Prior to this runs of Chinook salmon *(Oncorhynchus tshawytscha*) and steelhead *(Oncorhynchus mykiss*) occurred each fall and winter. Channelization apparently eliminated these runs, but they have resumed in the last 10 years. A declared goal of the current project is to protect and, if feasible, to enhance the runs of salmon and steelhead.

Between Suisun Bay and Waterfront Road, the channel is approximately 200 feet wide. This portion of the reach is bounded on the east by Point Edith Marsh. Upstream of this marsh, the creek is bordered by the Tosco refinery. On the west is a large pickleweed marsh bordered by extensive dredging spoils. South of Waterfront Road the channel narrows, and wide swaths of tulle marsh occur between the levees, interspersed with small patches of pickleweed. The only recreational access to the creek in Reach 1 is Waterfront Road. Anglers occasionally fish for striped bass at this location.

The channel bottom is fine silt (Montoya and Greyt, 1988) and the water is generally turbid. Salinity on a 4-foot tide in late August was 10 ppt at Waterfront Road (pers. comm., Terri Williamson, 1991).

Reaches 1 and 2 have been sampled by gillnet in the past (Leidy, 1983; Wang, 1986; IT, 1988; Montoya and Grey, 1988).

TYPE - Fish populations in Reach 1 were sampled on October 5, 1991 by gill netting near Waterfront Road. Species captured included white sturgeon *(Acipenser transmontanus),* Chinook salmon *(Oncorhynchus tshawytscha)*, steelhead *(Oncorhynchus mykiss)*, Sacramento splittail *(Pogonichtyhys macrolepidotus)* and striped bass *(Morone saxatilis).* The Sacramento splittail is a California Species of Special Concern (CSSC) and the other four species are important game fish.

A total of 51 splittail were captured ranging in size from 8- to 330 mm. SL (standard length). The presence of both juveniles and adults indicates that splittail probably are using the marsh areas bordering Reach 1 as both spawning and rearing habitat.

b. Previous assessment(s) used to establish your project goals and objectives, or to inform the basic assumptions of your proposal.

An extensive analysis of current watershed conditions was completed in 1992. The WCCRRP represents a commitment by the communities and agencies with jurisdiction over the corridor to re-establish as much as is feasible of the riparian setting and to create a trail system linking together the cities which straddle the creek corridor.

Previous assessments revealed water quality problems in Walnut Creek and its tributaries. These included excessive erosion and sedimentation associated with storm water runoff from construction sites, pesticide and fertilizer runoff from agricultural and residential areas, storm drain contamination due to improper oil, grease, etc. disposal, illegal dumping of toxic fluids and materials directly or indirectly into the creeks and accidental spills of contaminants. These water quality problems result in accidental fish kills, reduced aquatic habitat values for invertebrates, fish and wildlife associated with siltation, contamination and oxygen depletion, and potential public health hazards.

One of the goals of this Project has been to develop and evaluate, in conjunction with a regional trail plan, concepts for the improvement of the channel's biotic resources. The Technical Committee has worked with the Consultant Team to develop a wide range of alternatives depicting how future channel improvements could enhance vegetation, fish, and wildlife resources.

The WCCRRP set the framework for establishing current goals for the restoration planning and work.

c. A description of the scientific assumptions used to develop the project goals, objectives and proposed actions, and the degree to which those assumptions are widely accepted (both in the science community as a whole and in the watershed community).
d. A discussion of how the proposed actions are (are not) consistent with the scientific assumptions and previous assessments completed in the watershed.
e. A description of what baseline knowledge was used to support the management actions described in the proposal, or the likelihood that the management actions will generate more robust baseline knowledge.

Our proposed project is founded in extensive on-site reviews performed within the Watershed (see above response to questions 6a and 6b). None of our proposed alternative actions are based on "assumptions" about existing conditions but rather are based on direct observations and data analysis.

The expected effectiveness of proposed alternative actions are based a number of commonly accepted and applied practices for watershed restoration. The extent to which these practices are based on assumptions versus scientific observations and experimental studies is beyond the scope of this proposal. However, in general our proposed alternatives have a firm basis in the technical literature and scientific studies. For example, our proposed stream stabilization measures are fundamental practices for treating urban and non-urban streams that suffer form active erosion problems and slope exposure. Key elements of our stabilization plan include stabilization with laying back of incised banks and seeding; planting of stabilized zones such as the four zones mentioned earlier.

These measures are recommended for stream stabilization by widely accepted manuals (Federal Interagency Stream Restoration Working Group 1998; Darby and Simon 1999).

7. A. How will the proposal address multiple CALFED objectives (see Section I) in an integrated fashion, with emphasis on water supply reliability, water quality, ecosystem quality, and levee stability objectives CALFED has established for Stage 1 of the program?

- Ecosystem Quality – Degradation of the ecosystem by erosion, inflow of sediments, possibility of influence by local industries and residential use, depletion of riparian zones, and elimination of selective habitat have been major factors that prompted action by the stakeholders to correct the overall ecosystem. We will improve and increase aquatic and terrestrial habitats and improve ecological functions within and outside the watershed. Our planned actions will initiate recovery of ecosystem health by reducing and eliminating factors that degrade habitat, impair ecological functions and reduce population size and health of species.

- Water Supply – The supply of water from this watershed towards the delta will be enhanced by improvements within the watershed, which will result in improved flows due to corrective actions. The eventual planned implementation efforts will slow runoff and allow water to infiltrate the soils. Our activities will restore and enhance the watershed ability to absorb, store and release water.

- Water Quality - The intended watershed improvement activities will benefit water quality by the identification and control of point and non-point source pollution. We will also reduce and control pollutant loads throughout the system by the actions spelled out in the budget and general ecosystem rehabilitation along the corridor.

B. Explain how the proposal will help define and illustrate relationships between watershed processes (including human elements), watershed management, and the primary goals and objectives of the CALFED (see Section I).

This project combines critical elements of a watershed. The area will be actively planned for recreation such as fishing, hiking, nature study and general day use activities. The watershed provides water quality and quantity issues, historic values, riparian habitats, flood control and an extensive greenbelt.

Pertinent to CALFED, the watershed relates directly to the six primary objectives on pages I-7&8 of the Watershed Program Plan.

These include facilitation, coordination and collaboration of local watershed stakeholders, monitoring, education and outreach, integration with CALFED, complying with and complimenting CALFED watershed processes, goals and objectives and insuring long term stability of the watershed.
With the above mentioned CALFED primary objectives in mind, their relationship to human elements include active participation of individuals (public and private) in the stakeholders group for monitoring and assessment, education, exposure to the CALFED program and long term sustainability of the watershed. Again, active recreation and public use of the area will allow participants a first hand opportunity for education and interpretation of watershed improvement impacts. The overall relationships will be dependent upon the others. This can best be illustrated by envisioning a triangle with the points being 1) human, 2) management and 3) CALFED goals. This triangle comprises the watershed ecosystems. We will continually strive to keep this triangle intact by integrating the three elements throughout the life of this project and in perpetuity.

c. Identify a lead agency for environmental compliance, such as CEQA or NEPA. Describe the program's strategy and timetable on environmental compliance.

The County is the lead for all environmental documents and will completed CEQA documents necessary for the successful completion of this project. Upon completion of the plans, we will initiate the required environmental documents. This will occur approximately 2 months after plan completion.

8. Describe any other important aspects of your program that you could not address in the above items, and that you feel are critical to fully describing your project.

Submit all requested forms, including those not included in this Proposal Solicitation Package, and needed for the project.

This is most likely the largest watershed in the East Bay. The WCCRRP was developed by a task force to address the restoration of the Walnut Creek Corridor and the surrounding watershed. This grant application, if funded, will set the stage for stakeholders involvement in planning a greenbelt corridor that will address the following 14 issues.

1) Sedimentation/Channel Dredging for Improved Water Quality/Quantity
2) Revegetation Impacts to Hydraulics/Flooding
3) Fish Migration Barriers/Access
4) Toxic Pollutant Contamination Review
9) Non-point Source Pollution Review
10) Potential Hazards to Airport Operations
11) Ellinwood Creek Restoration and Enhancement
12) Continuance of Data/Information Sharing with Stakeholders/Public
13) Restoration of a Natural Stream Course
14) Trail Access with Connections Throughout the Communities

We will continue to muster support for this project from state, federal and private sources.

This is a golden opportunity for us to enhance a flood control system for over all public use, enjoyment and health.

The county has collaborated with National Grant Services (NGS), which actively solicits funding from state, federal, private and corporate funders. This mechanism (NGS) is a valuable partnership readily available to other CALFED partners.

CALFED WATERSHED PROGRAM BUDGET ESTIMATE AND PROJECT SUMMARY II
WALNUT CREEK WATERSHED

Task		Completion Qtr/Year	Match	Grant	Total
Administration					
a)	Project coordination	4/02	$ 6,000	$ 20,000	$ 26,000
b)	Studies, reports & inventory	4/02	10,000	85,000	95,000
c)	Conceptual designs	3/02	-0-	9,000	9,000
d)	Workshops & meetings 4/02		10,000	10,000	20,000
e)	Bids & documents	4/01	6,000	-0-	6,000
f)	Regulatory Approval	2/04	3,000	136,000	139,000
g)	Administrative costs	4/02	15,000	-0-	15,000
Sub Total			**$ 50,000**	**$260,000**	**$310,000**

Task Products - Success / Administration

a) Project coordination

This will entail complete coordination of all elements required for final assessment of the lower watershed. The coordination will be under the direction of the Contra Costa County Flood Control and Water Conservation District in conjunction with an environmental consulting firm and the stakeholders. The Senior Civil Engineer and support staff will be the coordinators. The coordinators will oversee items b) through g) as listed in the above budget.

Success will be measured by timeliness of general project coordination. All facets of the project must flow sequentially. Success will be measured by completion of reports, assessments and conclusive actions taken at the stakeholders meetings and workshops in a timely fashion. Success will also be measured by the effectiveness of engineering design, general supervision, flow and cohesiveness of meetings and their required frequency, lack of hindrances in preparing, submitting and awarding bids and completion of permits in a sequential manner appropriate to project implementation. ***The ultimate aim will be for the coordinators to connect all facets of this project to the primary program goals and objectives as outlined in the CALFED Watershed Program Plan.*** To insure that our project tasks are successful, we will require that the coordinators read and review this plan and specifically the Watershed Program Elements.

b) Studies, reports & inventory

The county contracted with Arbegast Newton & Griffith Landscape Architects and The Habitat Restoration Group to develop the Walnut Creek Channel Recreation & Revegetation Project (WCCRRP). This consultant team brought together critical information necessary to present concepts which will serve as an orderly guide for enhancement of recreational, aesthetic and natural resources of the Walnut Creek Channel. The WCCRRP will be utilized extensively as we formulate final design. Progress reports will be on going during the life of the project and will be submitted to stakeholders, CALFED, County Managers, city, state and federal agencies involved.

Collection of other watershed plans will be gathered and shared with the stakeholders. A minimum of three assessment review reports will come from the collaborative stakeholder efforts.

Success will be measured by timely completion of reports. This has been demonstrated already by the completion of the WCCRRP.

During this planning phase, we will continue to process documents required of CALFED, the city and other entities involved. The timeliness and effectiveness of all reports and collection of other design standards will measure success.

c) Conceptual designs

Specific design work is now required to carry out the implementation phase of the WCCRRP
County staff and the stakeholders will develop and finalize the required drawings necessary to implement future construction phases of this work.

Success will be measured by timely completion of engineering and construction drawings enabling a rapid transition from the drawing board to field work required for actual construction. Success will also be measured by collection of data and input from the stakeholders for the specific design elements within the concept and construction drawings.

d) Workshops & meetings

Approximately 3 meetings within the first six months will be held to allow all interested parties an opportunity to provide input for this planning phase. On-going meetings will be frequent between consultant and stakeholders to insure project flow and continuity. The Senior Civil Engineer and/or county staff will supervise and coordinate the meetings and communications necessary for a successful project.

Success will be measured by recording information gathered at the meetings, attendees, effectiveness of the meetings and an understanding of all participants of this project to the primary program goals and objectives as outlined in the CALFED Watershed Program Plan. Success will also be measured by completion or not of stated goals and objectives at each meeting.

e) Bids & documents

The county will develop bid documents, for the selection of an environmental consulting firm, based upon the completed WCCRRP.
The documents will be circulated internally for review by various departments and externally, all required state and federal agencies will receive copies as will the stakeholders and other interested parties.

The award of contract work to a bidder that is within the means and scope of the budget will determine success. We will also measure success by the number of responses received from the various entities reviewing the documents. (I.e. number returned vs. number submitted for review).

f) Regulatory approval

This represents Corp Section 404 delineation, RWQCB permit approval, CDFG 1601 and 1603 approval, Endangered species/ SOC surveys/ biological assessment, CEQA and NEPA. The costs are speculative at this time but critical for eventual implementation of the stream and watershed restoration process.

Success will be measured by a timely completion of permit requests and receipt of the permit well in advance of project construction. In essence, time will be the criteria.

g) Administrative costs

These costs are associated with printing, postage, telecommunications, electrical utilities, secretarial support, copying, janitorial etc.

The finished product and necessity for general communications will measure success

With this proposed budget and as described in the CALFED Bay-Delta Program – Watershed Program Plan we will:

- Facilitate and improve coordination among governmental agencies, other organizations and local watershed groups by involving their efforts in our project. This has occurred in the past with such groups as the Vacaville Tree Foundation, Vacaville Unified School District, Department of Fish and Game, Wildlife Conservation Board and State Parks Local Assistance Programs.
- Develop watershed monitoring and assessment protocols
- Support education and outreach. Public awareness and local school involvement with monitoring, education and interpretive displays will go far in achieving our educational efforts for the watershed.
- Integrate and collaborate with other CALFED common programs. As a partner with CALFED we will actively communicate with them to insure cohesiveness and compatibility with their programs and guidelllines.
- Identify the relationships between watershed processes and the goals and objectives of CALFED